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MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY
UNITED STATES DEPARTMENT OF AGRICULTURE

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November, 1916.

OTTO HEIDEMANN.

Mr. Otto Heidemann, long connected with the Bureau and custodian of the Hemiptera in the National Museum, died after an operation on the morning of the 18th at the Homeopathic Hospital at Washington. Mr. Heidemann originally came to the Department in 1883 and for a number of years was employed as a wood engraver. With the development of photo-engraving his occupation was lost and in 1893 he began for the first time the study of insects. It is an unusual thing for a man well beyond fifty to take up *de novo* the occupation which he is to follow ardently for the rest of his life. Mr. Heidemann became known all over the world as an authority on the group of insects which he studied. His address as retiring President of the Entomological Society of Washington on the eggs of Hemiptera was a paper of striking merit. He leaves a widow, Mrs. Mica Heidemann, well known as a sculptress and as a maker of insect models. [L. O. Howard.]

THE COTTONY CUSHION SCALE IN NEW ORLEANS.

Mr. E. S. Tucker, in October, 1912, first found the cottony cushion or fluted scale (*Icerya purchasi* Mask.) in Louisiana while inspecting a nursery just above New Orleans (La. Bul. 145). Since that time the scale has so increased in numbers and become so widely distributed that it has recently been observed at points throughout almost the whole of the city as well as at Baton Rouge and at Plaquemine, La. The matter was brought to Dr. Howard's attention last summer, and in accordance with his suggestions Mr. J. B. Garrett, State Entomologist, obtained a colony of the Australian ladybeetle, *Novius cardinalis* Muls., from Mr. Harry Smith in California. Mr. Edward Foster, Assistant State Entomologist, took some of these ladybeetles, and the remainder were cared for by Mr. E. R. Barber, of the Bureau. The ladybeetles have at this writing increased to over a hundred individuals, and their number has recently been supplemented by about twenty pupae obtained from Dr. E. W. Berger in Florida by Mr. U. C. Loftin. A few of them have been released in a cage erected in Audubon Park by the park authorities, and it is planned to propagate the others in a heated laboratory or greenhouse if one can be obtained.

On Tuesday, November 21, a well attended meeting under the auspices of the New Orleans Academy of Sciences was held at Tulane University, and papers were read by Messrs. Garrett, Foster, Barber and Holloway. The city government was represented by Commissioner Ricks, and Prof. W. H. Creighton, dean of the College of Technology, represented Tulane. Prof. R. S. Cocks, botanist of the University, pointed out that as the scale is found on Johnson grass and other grasses there is reason to believe that it will attack corn, rice and sugar cane. After some general discussion, a resolution was adopted stating that the ladybeetle should be given a fair test. Another resolution is as follows:

"Whereas, the entire vegetation of the city and its surroundings is in grave danger from the presence here in vast quantities of the 'cottony cushion scale' which threatens its very existence, and

Whereas, a sum of money not less than \$10,000 is needed for a vigorous campaign of extermination,

"Resolved, That it is the sense of this meeting, consisting of men of science,

horticulturists and representative citizens, that it is the bounden duty of the city to take such steps as are necessary to raise immediately the sum needed."

This resolution was introduced by Mr. Clarence F. Low, a prominent business man, and was carried unanimously.

A committee was appointed by Prof. J. M. Fletcher, President of the Academy of Sciences, and the matter is at present in their hands. The general public is becoming more and more interested, and letters and articles on the scale are appearing frequently in the New Orleans newspapers. [T. E. Holloway]

BUREAU VISITORS DURING NOVEMBER.

Among the Bureau visitors during November were:

C. P. Gillette, Colorado State Agricultural College, Fort Collins, Colo.

Herbert Osborn, Ohio State University, Columbus, Ohio.

H. A. Morgan, College of Agriculture, Knoxville, Tenn.

C. E. Sanborn, Oklahoma Agricultural College, Stillwater, Okla.

C. S. Banks, University of the Philippines, Manila, P. I.

Dr. Jesus E. Monjaras, formerly Secretary of the National Board of Health in Mexico.

Mr. John D. Sherman, Jr., of Mount Vernon, N. Y. (Mr. Sherman is specializing on water-beetles.)

Dr. Wicliffe Rose, Director of the International Health Commission of the Rockefeller Foundation.

THE PINK BOLL WORM IN THE UNITED STATES.

On November 1 specimens of cotton bolls showing the presence of *Gelechia gossypiella* were received at the Bureau. They came from San Pedro de las Colonias, Mexico. This was the first record of the occurrence of this important pest in America. Investigation indicates that it was introduced in Mexico through Egyptian seed imported for experimental purposes. The first step taken to protect the country against this pest was an absolute quarantine on Mexican cotton seed and bales of lint which became effective on November 4. All shipments of Mexican cotton seed which have entered the country since July 1 have been traced to their destinations and strong efforts are being made in cooperation with State officers and the Texas Cottonseed Crushers' Association to have it crushed without delay. A somewhat reassuring feature of the situation is that the great bulk of the seed imported was more than one year old and could not have carried any infestation. It will be necessary, however, to make very frequent inspections in Texas next season and to be prepared to stamp out any colonies which may have become established. In the meantime, if possible, a thorough exploration may be made in Mexico. Messrs. Hunter, T. C. Barber, Loftin, Dove, and Bishopp were engaged in work connected with this emergency during the month.

The outbreak in the Laguna District of Mexico is probably of two or three years standing but the insect has probably only begun extensive spread in this District during the last year and no instance of actual infestation has so far been discovered in the seed that has been brought into Texas.

The occurrence of this insect in Mexico presents one of the gravest dangers which has ever confronted the cotton crop of this country and unless the pink bollworm can be exterminated by cooperative work between the United States and Mexican authorities, its ultimate infestation of the cotton fields of the Southern States is a practical certainty.

RECENT PUBLICATIONS OF THE BUREAU.

DEPARTMENT BULLETINS.

- No. 408, Experiments during 1915 in the destruction of fly larvae in horse manure, Cook & Hutchison, Oct. 28, 1916.
- No. 419, The grape leaf folder, J. F. Strauss, Nov. 9, 1916.
- No. 421, The sugar-beet thrips, W. H. White, Oct. 26, 1916.
- No. 422, The eggplant tortoise beetle, T. H. Jones, Oct. 2, 1916.
- No. 424, The cottonwood borer, F. B. Milliken, Nov. 9, 1916.

FARMERS' BULLETINS.

- No. 754, The bedbug, C. L. Marlatt, Oct. 14, 1916.
- No. 759, White ants, T. E. Snyder, Oct. 9, 1916.
- No. 762, The false chinch bug, F. B. Milliken, Oct. 21, 1916.
- No. 766, The common cabbage worm, F. H. Chittenden, Nov. 21, 1916.

JOURNAL OF AGRICULTURAL RESEARCH.

- Effect of nicotine as an insecticide, N. E. McIndoo, Oct. 16, 1916. K-43.
- Life history of *Habrocytus medicaginis*, T. D. Urbahns, Oct. 23, 1916. K-44.
- Rosy apple aphid, Baker and Turner, Nov. 13, 1916. K-45.
- An important new insect enemy of the peach, A. L. Quaintance & W. B. Wood, Nov. 21, 1916. K-46.

MISCELLANEOUS.

- Report of the Entomologist for 1916. L. O. Howard. November 1916.

MORDELLISTENA N.SP.

The beetles discovered by H. L. Sanford, of the Federal Horticultural Board, in rhizomes of fern (*Nephrolepis*) from Guatemala, and reported in the October number of the Monthly Letter, as undetermined, have been identified as *Mordellistena* n. sp., by Messrs. Schwarz and Barber.

For the benefit of those who file or bind the Weekly News Letter of the Department of Agriculture, it is noted that an error is involved in the issue of November

15, 1916, described as Vol. IV, No. 14. The issue of November 15, should read Vol. IV, No. "15" instead of "14", and as no number 15 will now be issued, the number may be changed to read "15" before filing.

LIBRARY

Miss Mabel Colcord, Librarian.

NEW BOOKS

- Baker, E. T. Sheep diseases. Chicago, 1916. 237p. (Veterinary medical series no. 12) Parasitic diseases, p.153-176.
- Hiss, P. H. A text-book of bacteriology... by Philip Hanson Hiss and Hans Zinsser 3d ed. New York and London, 1916. 733p.
- Illinois State Entomologist. 29th report on the noxious and beneficial insects of the State of Illinois. (18th report of Stephen A. Forbes) [Chicago] 1916. 127p.
- Petherbridge, F. R. Fungoid and insect pests of the farm. Cambridge, University press, 1916. 174p.
- Rosenau, M. J. Preventive medicine and hygiene... 2d ed.rev. New York and London, 1916. 1286p.
- Shipley, A. E. More minor horrors. London, 1916. 163p.
- Sterling, E. A. The preservative treatment of farm timbers. Chicago, 1916. 16p. (National lumber manufacturers' association- Trade extension dept. Farm. bulletin no. 3)
- Tokyo- Imperial sericultural experiment station. Bulletin v.1, no.1, May 1916. 149p. (Text in German)
- U.S.Dept. Agr. Div. Publications. Complete list of Farmers' bulletins issued to Oct. 15, 1916. Lists no. 1-774.
- U.S.Dept. Agr. Secretary. Program of work for the fiscal year 1917. July 1, 1916. 502p.
- Wilcox, E. V. Tropical agriculture. New York and London, 1916. 373p. Books and periodicals dealing with tropical agriculture, p.349-360.

BEE CULTURE

E. F. Phillips, In Charge.

Kennith Hawkins of Illinois was appointed on November 4 on the cooperative project between the Bureau of Entomology and the Office of Extension Work in the South, States Relations Service. Mr. Hawkins remained in Washington until November 17, when he left to attend the meeting of the Maryland State Beekeepers' Association at Baltimore. He then left for Blacksburg, Va., and Raleigh, N. Car., to consult with the State Extension Directors at those places, after which he will spend about a

month in extension work in beekeeping in South Carolina.

C. E. Bartholomew of Iowa was appointed November 1 for the cooperative project between the Bureau of Entomology and the Extension Service of the University of Tennessee. Mr. Bartholomew left Washington on November 5 for Knoxville and soon after began work in the mountain districts of Tennessee.

DECIDUOUS-FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, In Charge.

R. A. Cushman, who has been engaged in investigations of parasites of the grape-berry moth and other deciduous fruit insects, with headquarters at North East, Pa., has returned to Washington for the preparation of manuscripts and further systematic work on parasitic Hymenoptera.

E. B. Blakeslee has returned to Washington from his field headquarters at Springfield, W. Va., and will be engaged in the preparation of manuscripts and notes.

H. G. Ingerson, in charge of the Bureau's grape-berry moth investigations at Sandusky, Ohio has returned to Washington for the winter months.

FOREST INSECT INVESTIGATIONS

A. D. Hopkins, In Charge.

The designation, Forest Tree Seed Insect Station, at Ashland, Oregon, has been changed to Pacific Slope Station, with Assistant Forest Entomologist J. M. Miller in charge.

The designation of Pacific Slope Station at Placerville, Cal., has been changed to Forest Insect Laboratory and the location to Los Gatos, Cal., with H. E. Burke, Specialist in Forest Entomology in charge.

Notes from Eastern Field Station, East Falls Church, Va.

During September and October a new insectary was constructed. It was built for the study of insects injurious to crude forest products. It is forty feet long by nine feet wide and is divided into six compartments two of which are again divided. One of these compartments is made of reeded partition covered with a tight roof and has two windows covered with forty-mesh brass wire. This compartment is to be used to season woods. The other compartments are separated by fourteen-mesh galvanized wire and have a removable lattice roof. All of the compartments are entered through doors from the outside and are really small screen houses which will give give as near as is possible, in a cage, natural conditions. The base for the insectary is concrete and the joint between the sill and base is carefully cemented so the structure is (as far as mesh of wire allows) insect tight. It is planned to cover the structure with cheese cloth during the flight periods of the small Scolytids.

In October the Eastern Field Station was moved from Gaylor Street, Falls Church, Va., to a new building on Washington Street near Falls Church, Va. This change does not mean any change in either freight, express or mail address. The freight and express office is still Falls Church and the postoffice address East Falls Church. The new building was built especially for the use as a laboratory but is so planned that it can be converted into a dwelling house should the government discontinue its lease. The house is two stories with a large cellar and attic and is twenty-eight

by thirty-eight feet. The first floor has three rooms, hall and bath. One of the rooms is twenty-seven by fourteen feet and is assigned to Forest Coleoptera; the other two are smaller and are used for photographic and administrative purposes. The second floor has two large rooms, hall and bath; one room is assigned to Forest Lepidoptera, the other to Forest Hymenoptera and Forest Diptera and the hall to preparator work. The building is well constructed, has electric light, hot-water heat and a satisfactory sewage system. The water is obtained from a well. The house is accompanied by three and a fraction acres of ground, part of which is wooded. As a whole it is admirably adapted for our work and, with its five insectaries, it is equipped to handle almost any problem dealing with insects injurious to forest or shade trees.

The following is a list of the Station force:

Miss E. B. Clark - - - - - Preparator.
F. C. Craighead (part time) Specialist on Cerambycid larvae
and general biological work on Coleoptera.
Miss V. Gray - - - - - Preparator.
C. T. Greene (part time) Specialist on Forest Diptera.
Carl Heinrich (part time) " " " Lepidoptera.
E. D. Johnston - - - - - Laborer.
Wm. Middleton, Assistant in Forest Hymenoptera.
Miss D. Moore - - - - - Student Assistant.
S. A. Rohwer (part time) Specialist on Forest Hymenoptera
and in general charge of Station.
T. E. Snyder (part time) Specialist on Termites and insects
affecting forest products.

WHITE TOP CONTROL PROJECT SUCCESSFUL.

In November, 1915, an inspection was made by T. E. Snyder of the White Top Purchase Area, in Virginia and Tennessee, which showed that the treatment of 1,612 (or about 61%) out of a total of 2,612 pines infested by the southern pine beetle (*Dendroctonus frontalis* Em.) served to reduce the infestation on the treated and adjacent areas 96% below the amount of infestation found at the time control work was started. Only 102 infested trees were located, mostly scattering or in small clumps, and these were not near where the control work was carried on in March, 1915 by the Forest Service under recommendations of the Bureau.

In three localities, however, infested trees were found in large clumps and these, on the recommendation of Dr. A. D. Hopkins, the Forest Service left untreated, the object being to secure an additional test of the influence of control work on the continuation of the reduction of the infestation during the next year or two and, especially, as an experimental demonstration with *D. frontalis*. The area was watched by the local officials for new infestation during the summer of 1916.

A letter has just been received from the Forester stating that the local officer in charge of the White Top Area reports that general observations over the whole area and careful inspection of the principal centers of former infestation, made in October, 1916, fail to show any infestation.***** He believes that the control measures carried out may be credited with highly satisfactory results.

This is a convincing demonstration of the economy and efficiency of the percentage principle of controlling this most destructive insect enemy of the pine timber of the Southern States.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS

W. D. Hunter, In Charge.

Prof. H. A. Morgan, Dean of Agriculture in the University of Tennessee, visited Tallulah, Mound and other points in Louisiana in company with W. D. Hunter for the purpose of reporting on the field work of the Bureau. Visits were also made to the laboratory at New Orleans and the Experiment Station at Baton Rouge.

The appointment of E. S. Tucker as field assistant was terminated on November 18.

The advance of the boll weevil during 1916 has been determined and the map will be published in a short time. The spread was nearly equal to that of 1915 which was the largest on record.

An important paper by D. L. Van Dine entitled "The Relation of Malaria to Crop Production" appeared in the Scientific Monthly of November.

TROPICAL AND SUBTROPICAL INSECT INVESTIGATIONS

C. L. Marlatt, In Charge.

Mr. W. W. Yothers spent a week in Washington during the month for the purpose of consultation on the Florida work.

Dr. E. A. Back reports landing at Cadiz, Spain, where he found in the public markets *Ceratitidis capitata* infesting apples, quinces and pears, and *Dacus oleae* in both green and ripe olives. Malaga grapes were uninfested.

CEREAL AND FORAGE INSECT INVESTIGATIONS

W. R. Walton, Acting in Charge.

R. N. Wilson formerly in charge of the field laboratory at Gainesville, Fla., has resigned to accept a position as County Agent of Palm Beach County, Florida. His resignation took effect November 20. The Gainesville station will be abandoned for the present.

D. J. Caffrey reports the presence of *Toxoptera graminum* in the vicinity of Springer, N. M., and states that some of the aphids survived the recent cold snap when the temperature dropped to about zero, Fahrenheit. A recent examination showed that wingless aphids were present in the fields. A few parasitized specimens were collected during the first week in November from which adult specimens of *Aphidius testaceipes* were reared.

J. J. Davis and E. G. Kelly are at present engaged in inspecting the Hessian-fly experimental plats within their respective territories.

W. H. Larrimer, formerly in charge of the field laboratory at Charleston, Mo., has resigned to accept a position in the Forest Service. He will probably be stationed in Montana.

A. F. Satterthwait of the Lafayette, Ind., staff has been detailed to take charge of the Charleston station and will proceed to that station about December 1.

The address of C. F. Turner, formerly in charge of the Greenwood station is now box 95, West Lafayette, Ind.

The transfer of the Pasadena station to Martinez, Cal., has been affected and the laboratory is rapidly being put into working order.

THE WEST LAFAYETTE (IND.) FIELD STATION.

SEASONAL REPORTS.

November 23, 1916.

The season of 1916 was remarkable for the scarcity of insect outbreaks in cereal and forage crops in the north central states. The most noticeable pest was the Hessian fly which caused great loss to wheat in Illinois and Indiana, as far north as latitude 41°, injuring the crop both in the fall of 1915 and spring of 1916. A recent survey shows a scarcity of the fly in central Indiana and Illinois although in southern portions of these States heavy infestation occurs in early sown fields, while in sowings made after October 3 very few maggots are to be found and most of these will not mature and consequently will not survive the winter. The percentage of parasitism has not been determined and although doubtless greater than last year, the spring injury is likely to occur in localities where more or less wheat was sown early. Wheat generally is in good condition and fairly free from fly because in most localities very little of it was sown earlier than October 1 owing to unfavorable weather conditions. This, together with the dry season which checked the growth of volunteer wheat, have assisted materially in the reduction of fly infestation. The so-called fly-resistant wheat known as "Illini Chief" which has been grown and selected by Mr. E. L. Gillham, a Madison County, [Ill.] farmer for the past 9 years, seems promising for its fly-resistant qualities. Studies relating to it in Illinois are being made in cooperation with Dr. S. A. Forbes.

Other insects which have been found and reported as causing very noticeable damage the past season are the corn-stalk borer (*Papaipema nitela*) injuring oats, wheat, rye, corn and white sweet clover; cutworms (*Noctua C-nigrum* and *Euxoa messoria*) injuring corn and other crops; bill-bugs (*Sphenophorus* spp.) injuring corn; May beetles (*Lachnosterna* spp.) defoliating trees; clover root-borer (*Hylastinus obscurus*); southern corn root worm (*Diabrotica 12-punctata*) attacking corn roots and the adult beetles feeding on corn silk and preventing fertilization of the ear; the western corn root worm (*Diabrotica longicornis*); a black flea-beetle (*Epitrix* sp.) injuring corn and the corn root-aphis (*Aphis maidi-radici*).

Besides investigating these and other insects injurious to cereal and forage crops a resuming of the Hessian-fly problem has been initiated in Illinois, Indiana, Kentucky and Ohio. [Signed] John J. Davis.

